

Dyslexia or Disteachia

Teaching the five essentials of good reading instruction.





Dyslexia

- Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.(Lyon, Shaywitz & Shaywitz, 2003)



Dyslexia

- Dyslexia is not primarily a visual problem; it is a language-based problem.
- Dyslexia does not mean seeing things backwards and is not necessarily indicated by reversals of letters or words.
- Dyslexia or reading disability occurs in people of all levels of intelligence, not just the intellectually gifted.
- Dyslexia is not caused by lack of motivation to read and write. Lack of motivation may be a consequence of dyslexia because it is very difficult for the individual.



Dyslexia


- Dyslexia is not only a reading problem in families who do not read frequently and together; it can occur in any family.
- Boys and girls are both affected by dyslexia; with boys affected somewhat more than girls, but not overwhelmingly so.

This is the fMRI machine.





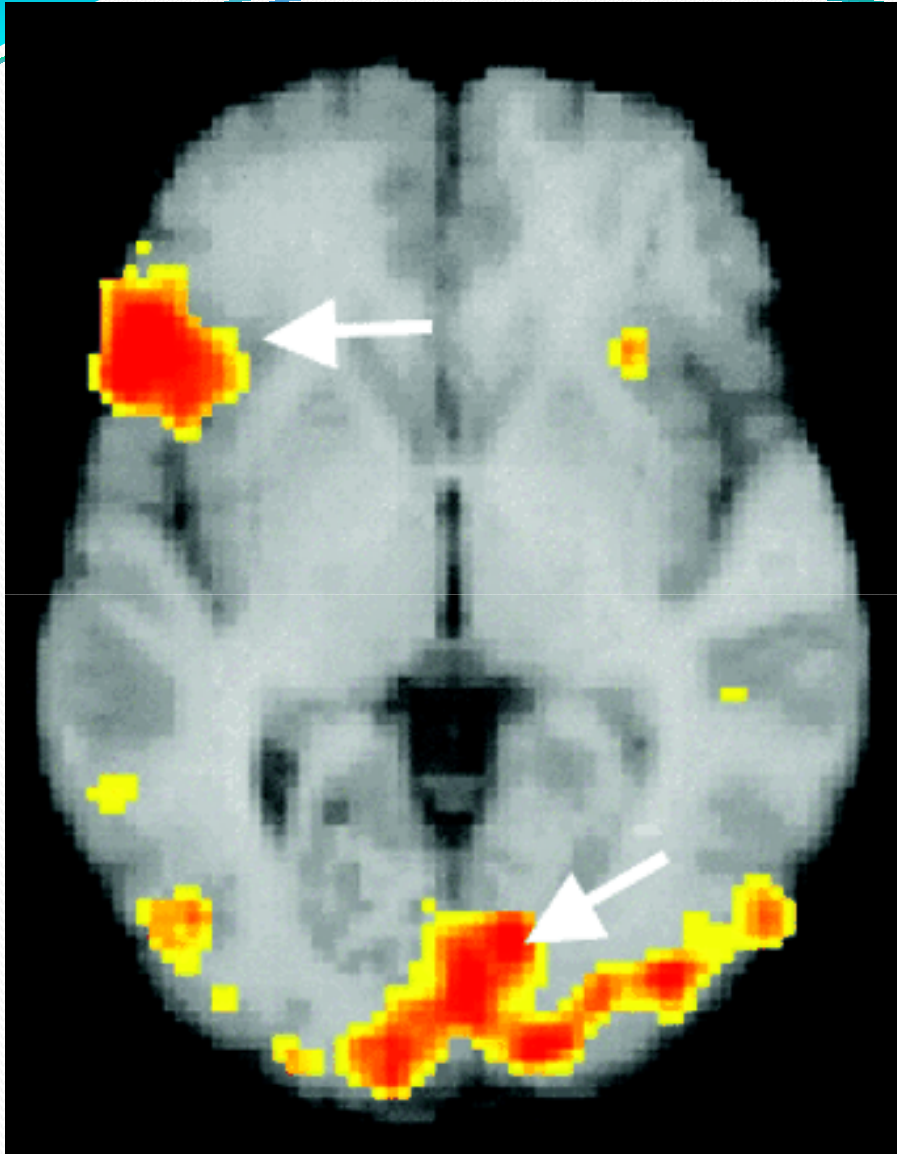
The test doesn't hurt and there are no needles or side effects.



With an fMRI, we can actually see someone's brain at work as they read or do other activities.

The test shows **RED** in the parts of the brain that are activated and getting the most oxygen through **blood** flow.

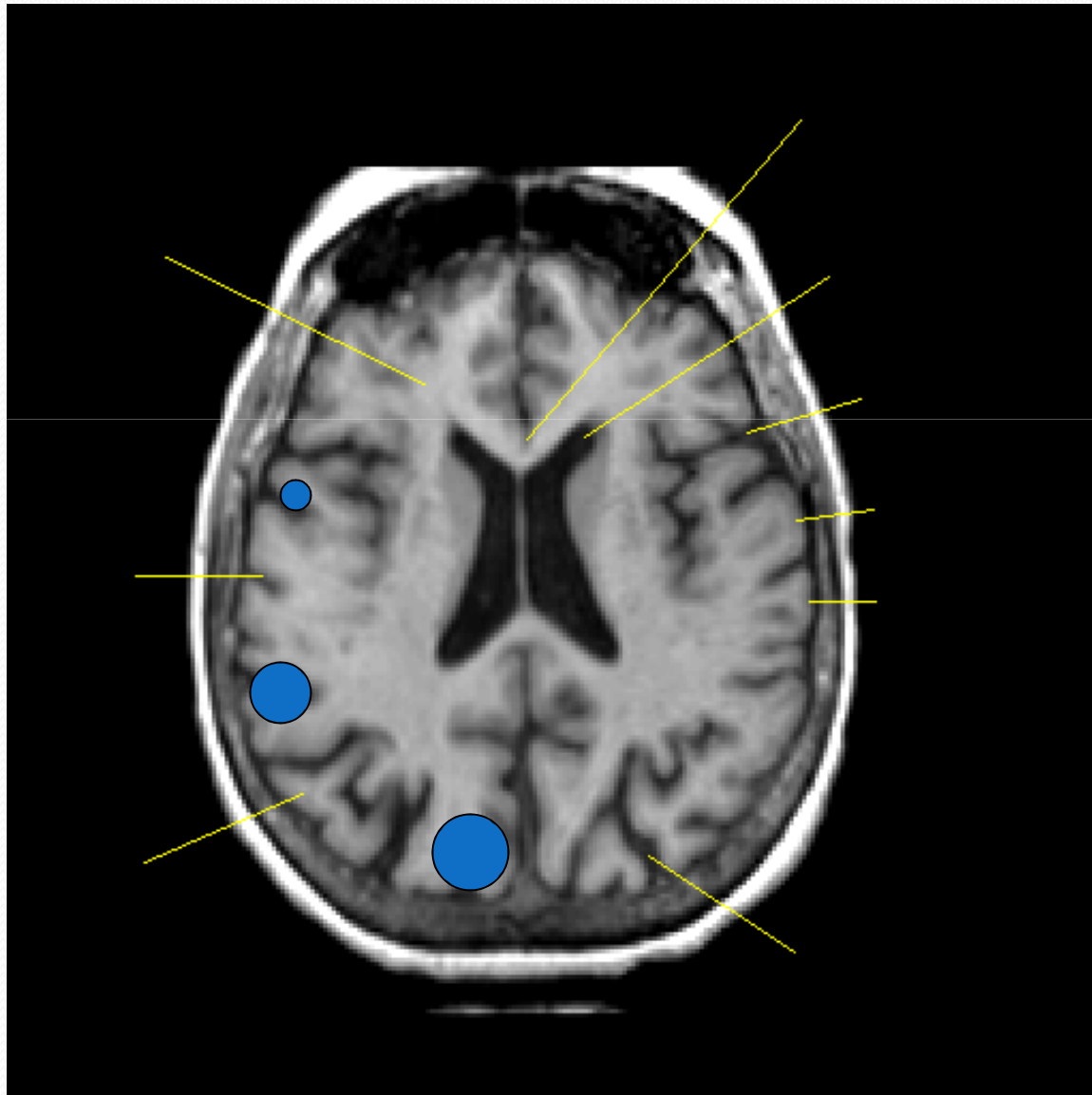
The part of the brain that is **RED** is working the hardest.




This is an fMRI image of the brain of a good reader reading words.

Arrows point to the parts of the brain that are activated.

With the right intervention class and practice, these brain parts
begin working— **all the right parts!**






All of this brain research shows that even though they may be smart, some people can't read well because there is a weakness in the part of the brain that processes sounds or phonemes. This is the part of the brain:

- Where print is translated into language
- Where sounds are put together to make words
- Where words are broken down into sounds.

How the Brain Reads....



Left brain hemisphere

FRONTAL LOBE

PARIETAL LOBE

TEMPORAL LOBE

OCCIPITAL LOBE

CEREBELLUM

In a normal response ...

1 The Phoneme Producer
Left inferior frontal gyrus

ANIMAL

This section of the brain helps a person **vocalize words** – silently or out loud. It also starts to analyze phonemes, the smallest sounds that make up words. Cat, for example, contains three phonemes: /k/, /a/ and /t/. This section is especially active in the brains of beginning readers.

2 The Word Analyzer
Left parieto-temporal area

AN I MAL

This section of the brain does a more complete analysis of written words. Here they are **pulled apart** into their constituent syllables and phonemes, and letters are linked to the appropriate sounds.

3 The Automatic Detector
Left occipito-temporal area

ANIMAL AN

The job of this part of the brain is to **automate the process** of recognizing words. The more the automatic detector is activated, the better it functions. Skilled readers can breeze through print with assembly-line-like speed.

WHAT GOES WRONG

The high-speed assembly line breaks down in children with dyslexia. A neurological glitch prevents their brain from easily gaining access to both the word analyzer and the automatic detector. Dyslexics appear to compensate by loading more heavily on the phoneme producer as well as by recruiting areas from the right side of the brain (not shown) that process visual clues from, for example, accompanying pictures.

AM/NAL

Source: *Overcoming Dyslexia*, by Sally Shaywitz M.D.
IMB Graphic by Len Tewelers; text by Christine Gorman

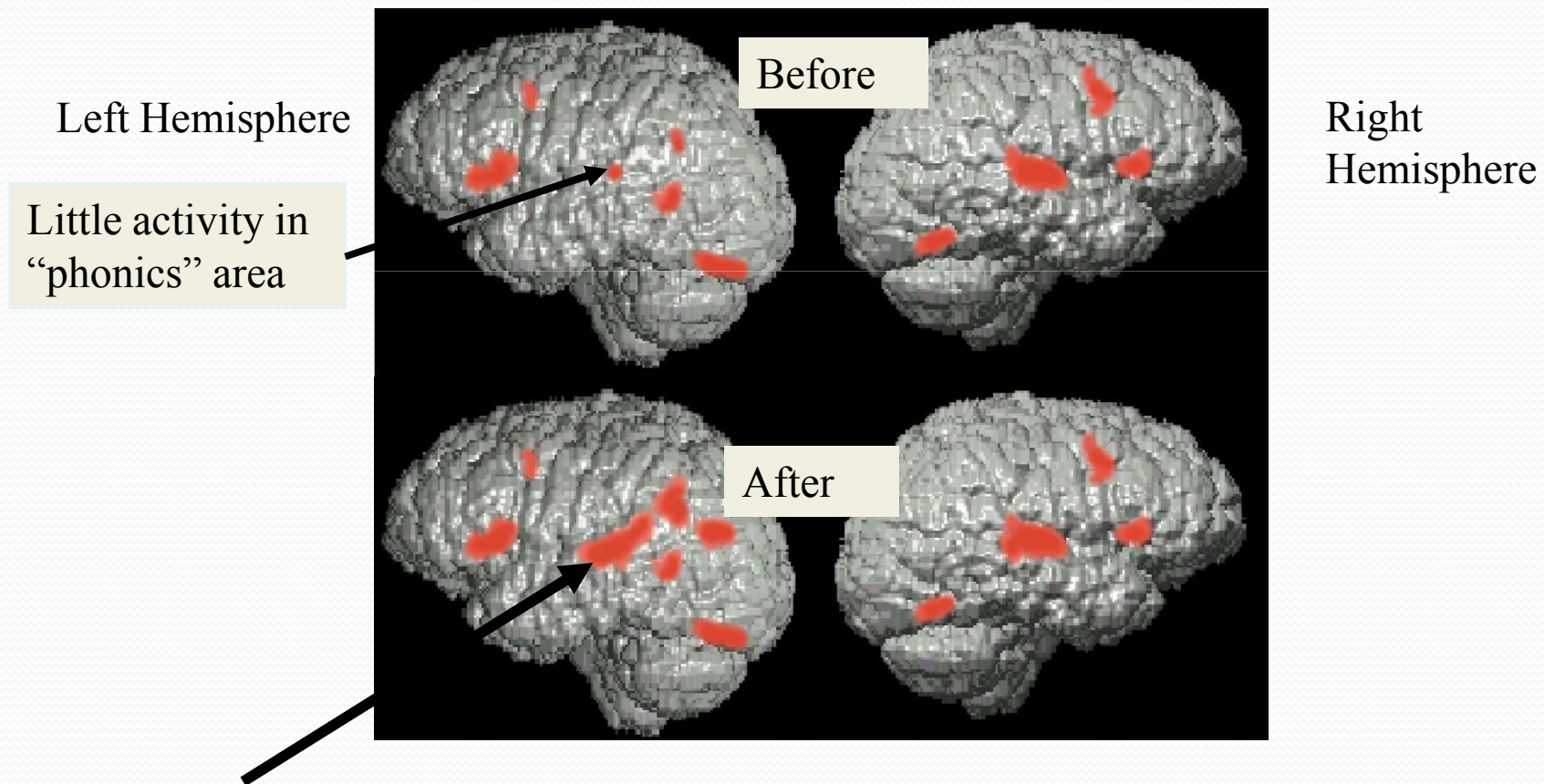
“Overcoming Dyslexia”

Time Magazine

Vol. 162, No. 4

July 28, 2003

Convergence with Brain Science

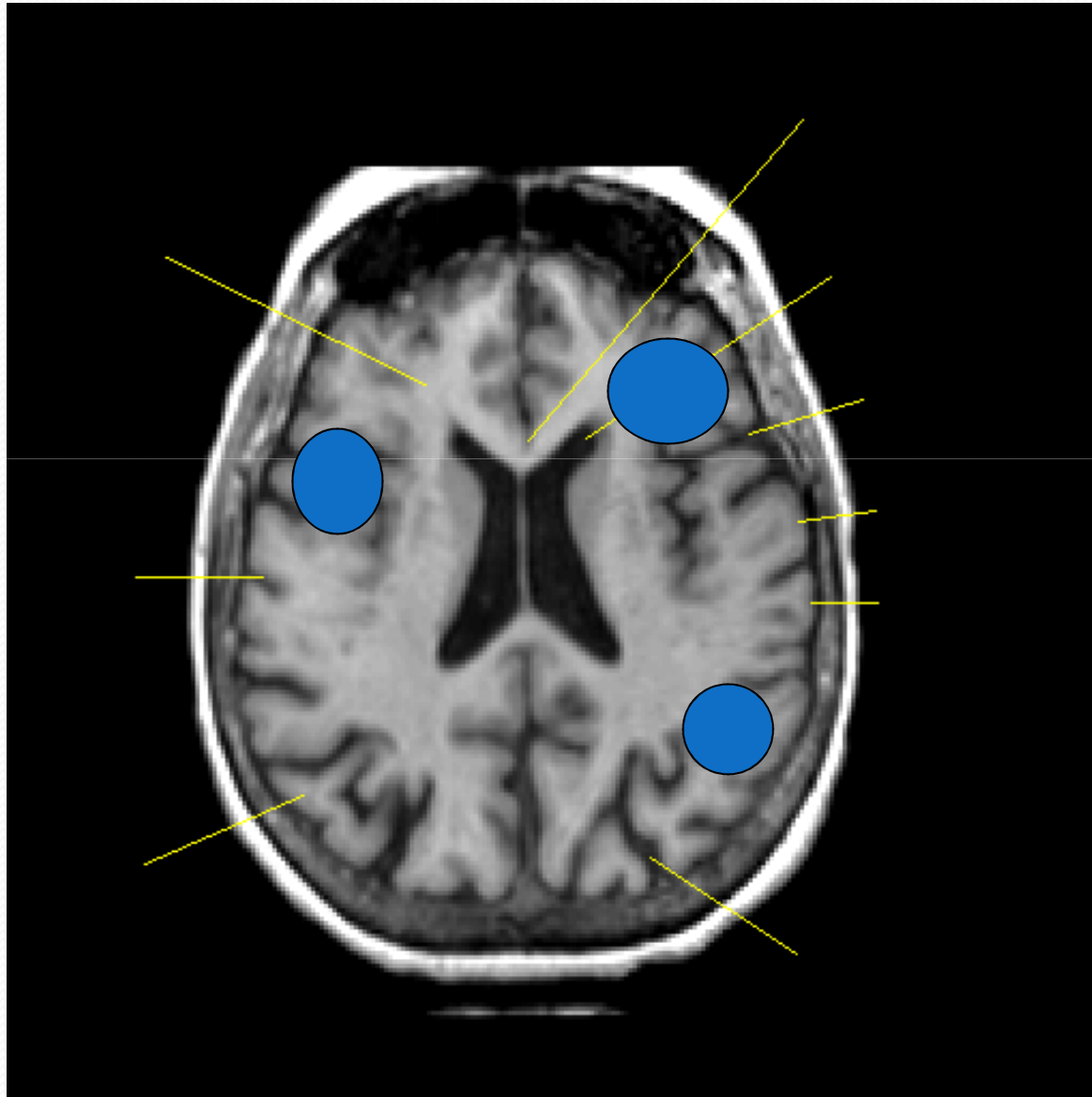


What Does a Struggling Reader Look Like?

- Poor decoding skills; students struggle with too many individual words and don't know how to effectively tackle a new word
- Lacks the fluency necessary to focus on comprehension
- Weak vocabulary
- An inability to read strategically and actively
- Poor spelling skills
- Avoidance behavior or lack of confidence



These brain parts are doing most of the work when a struggling reader is reading:



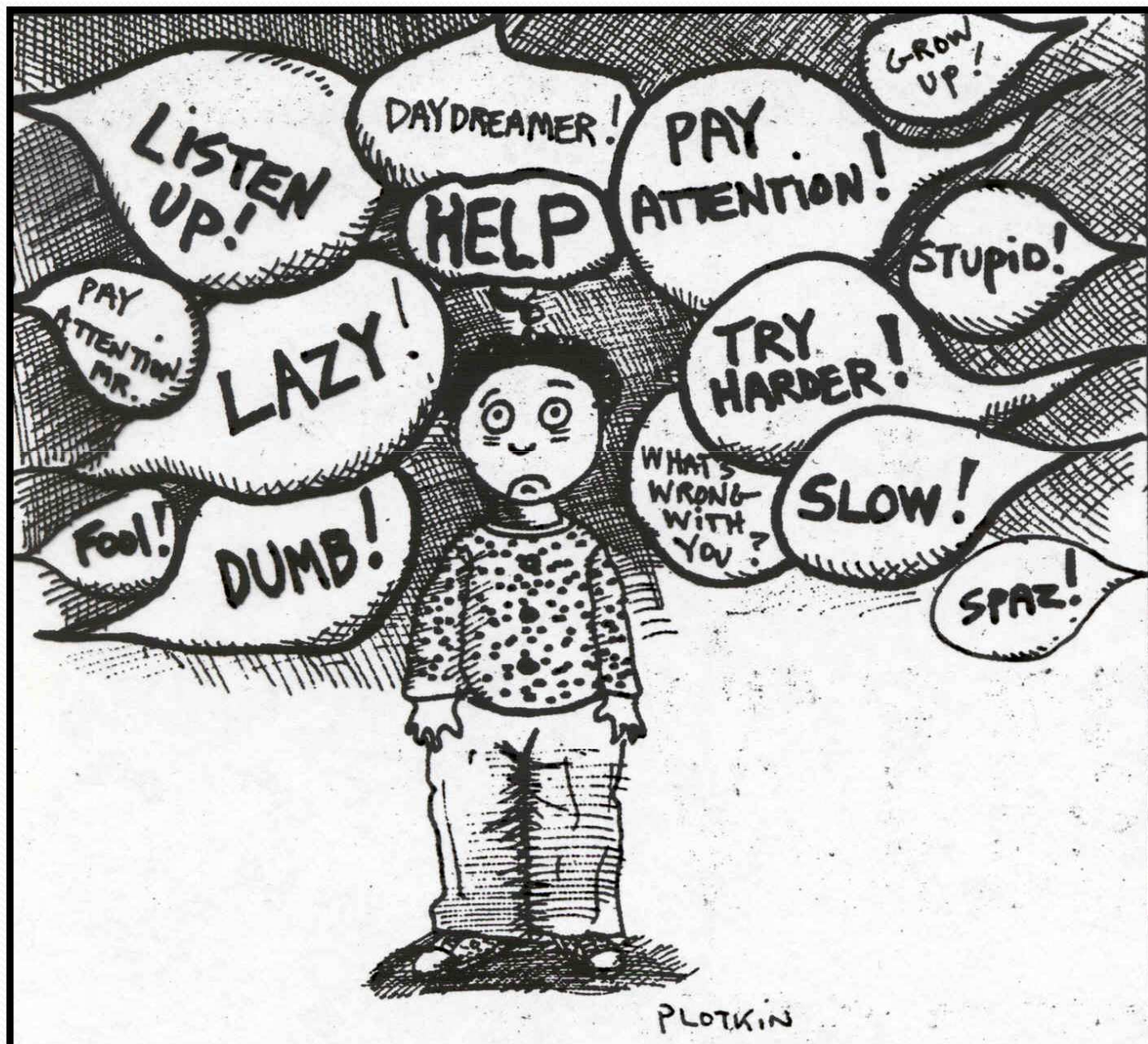
These brain parts are working when a good reader is reading:



What Does a Proficient Reader Look Like?

- Ability to identify and manipulate the speech sounds in words at the phoneme level
- Can recognize a new printed word with very few exposures
- Accurately links sound and text
- Able to process larger “chunks” of print
- Recognizes words with fluency
- Focuses on meaning; no longer “glued” to print
- Ability to comprehend words, sentences, and longer text



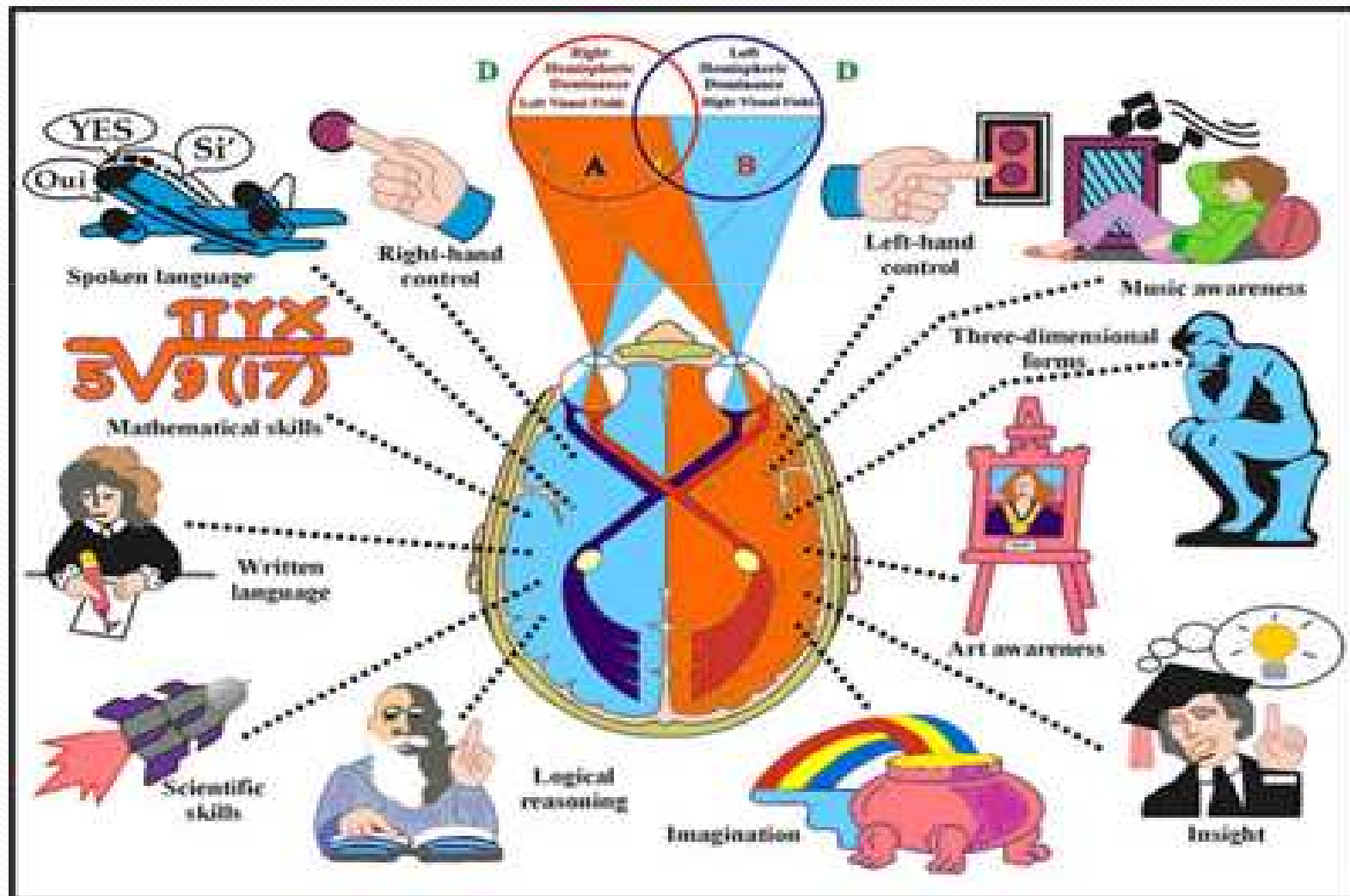




Behaviors of Struggling Readers

- Avoidance of literacy tasks
- Negative behaviors designed to distract attention from reading deficit
- Acquisition of faulty strategies into reading process
- Lack of motivation to learn
- Shame

Are You A Righty or a Lefty?





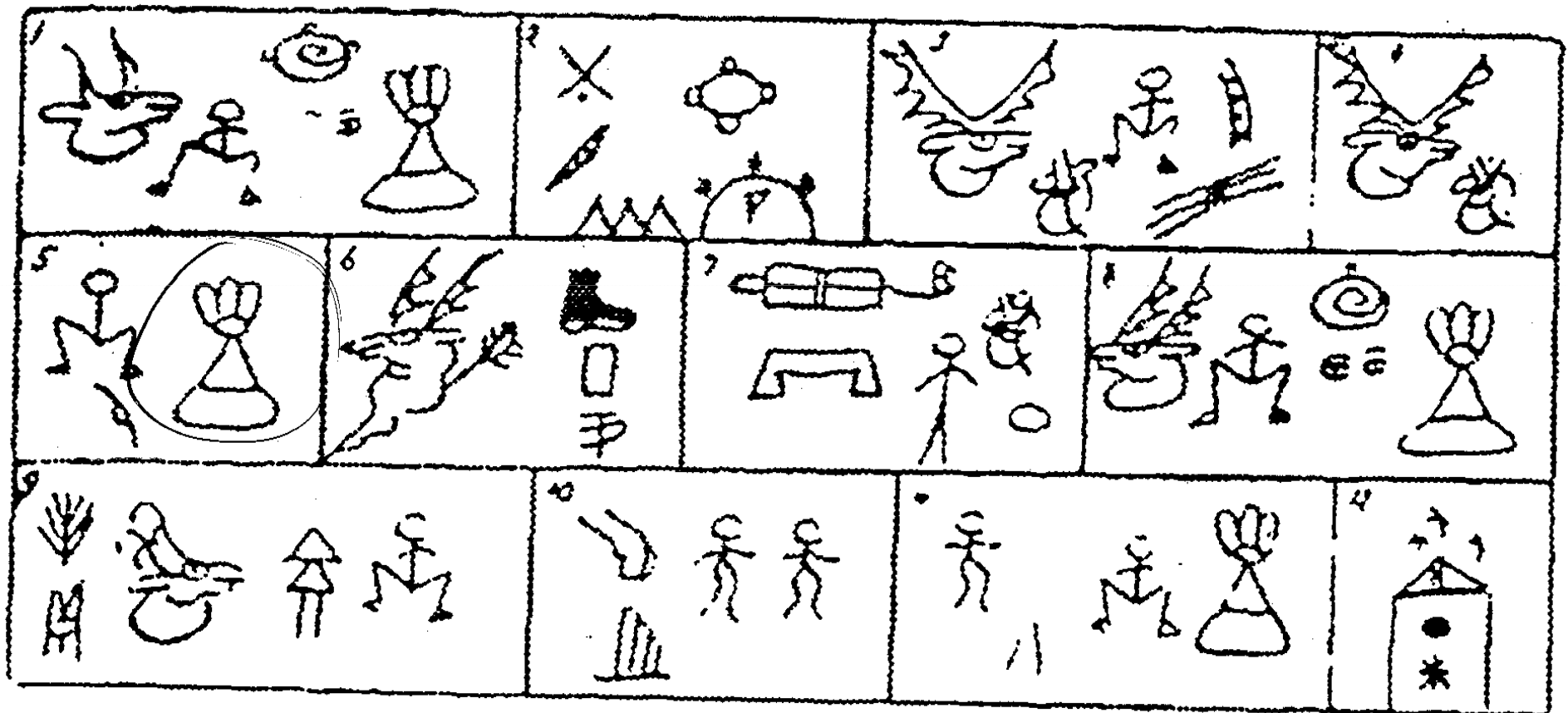
Now try reading this....

米当局は、あなたの国籍故に、在米日本領事代表にあなたが逮捕又は拘禁されたことを通報する必要があります。領事官は通報を受けた後、あなたに電話を掛けたり、あるいはあなたを訪門することができます。あなたは領事官の援助を受ける必要はありませんが、あなたが弁護人を選任する手助けや、あなたの家族との連絡、身柄拘束中のあなたを訪問する等の措置を取ってくれるかも知れません。できるだけ早く日本の領事官に通報します。

Georgian

ჰისტორიკი
მიმდგრადი, ძლიერი,
სიყვარული ღრმად ჰყ-
ვარება სულ ღრმად
ღრმად რა ჰყვარება
ღრმად მივლინა
ღრმად მისი. მისი-
მივლინა ღრმად
ღრმად მისი
ღრმად მისი. მისი.

Nakhi



Walt Disney : Famous animator & creator of Mickey Mouse & Disneyland



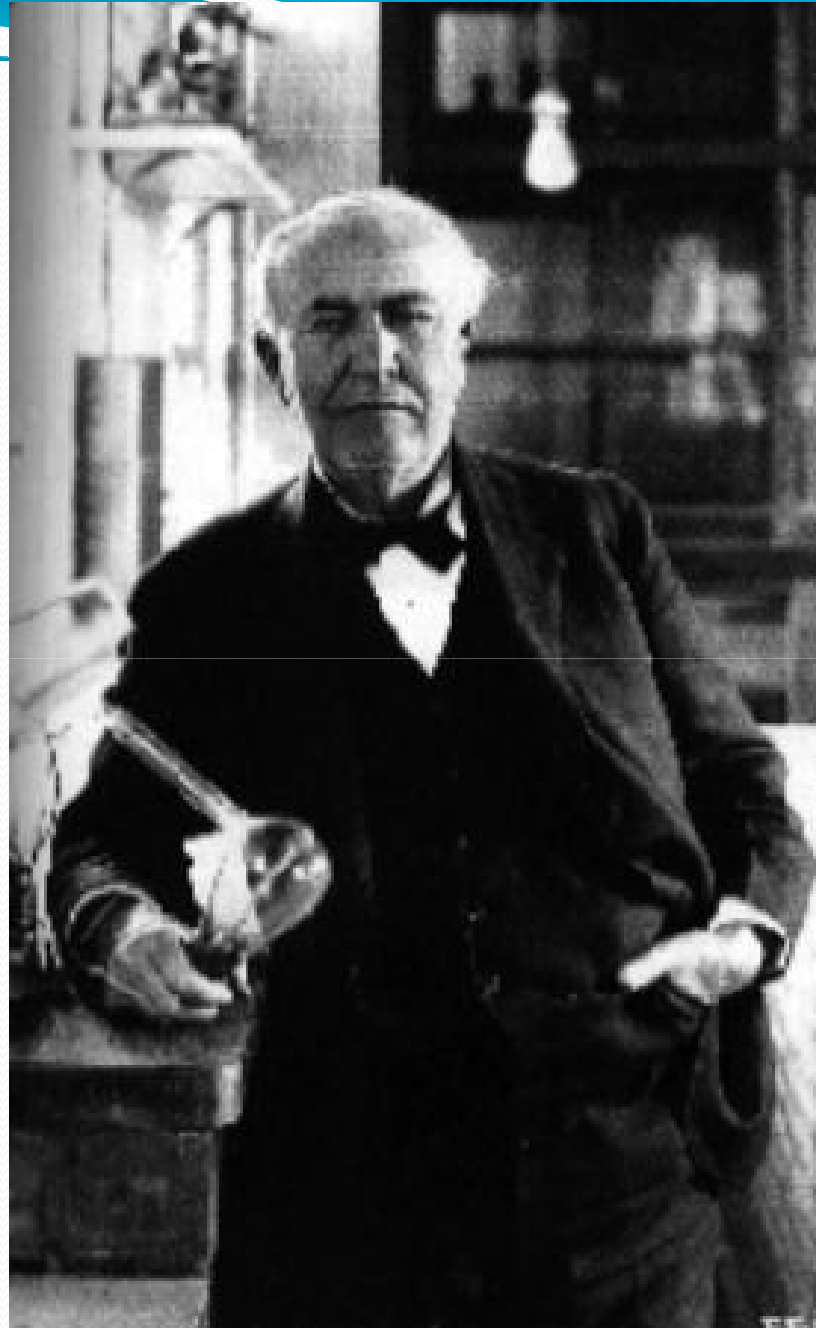
George Patton:

General in the
United States
Army during
World War II



Thomas Edison:

American
inventor and
businessman



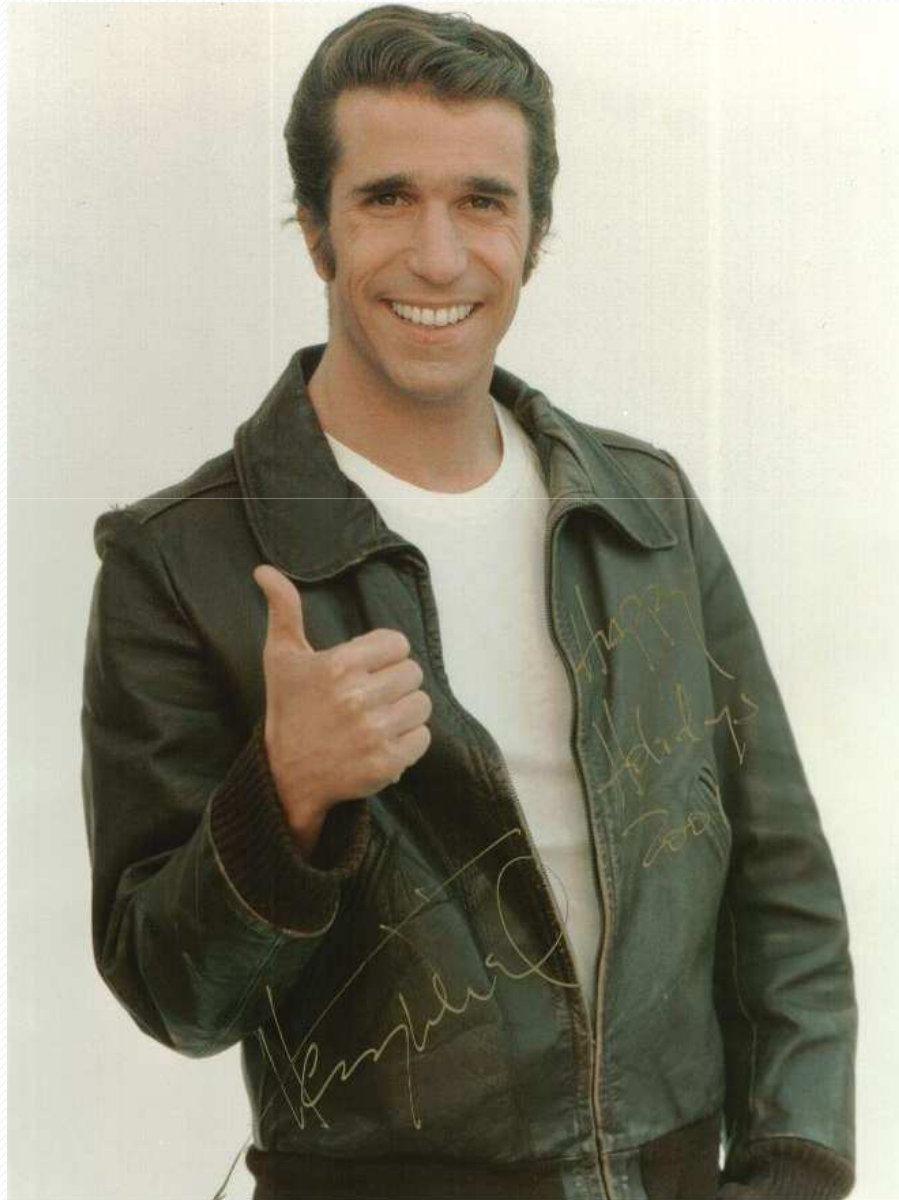
Jay Leno: Comedian



Whoopi Goldberg: Actress and comedian



Henry Winkler: Actor, producer, and author of children's books about reading disability



Edward
James
Olmos:

Actor

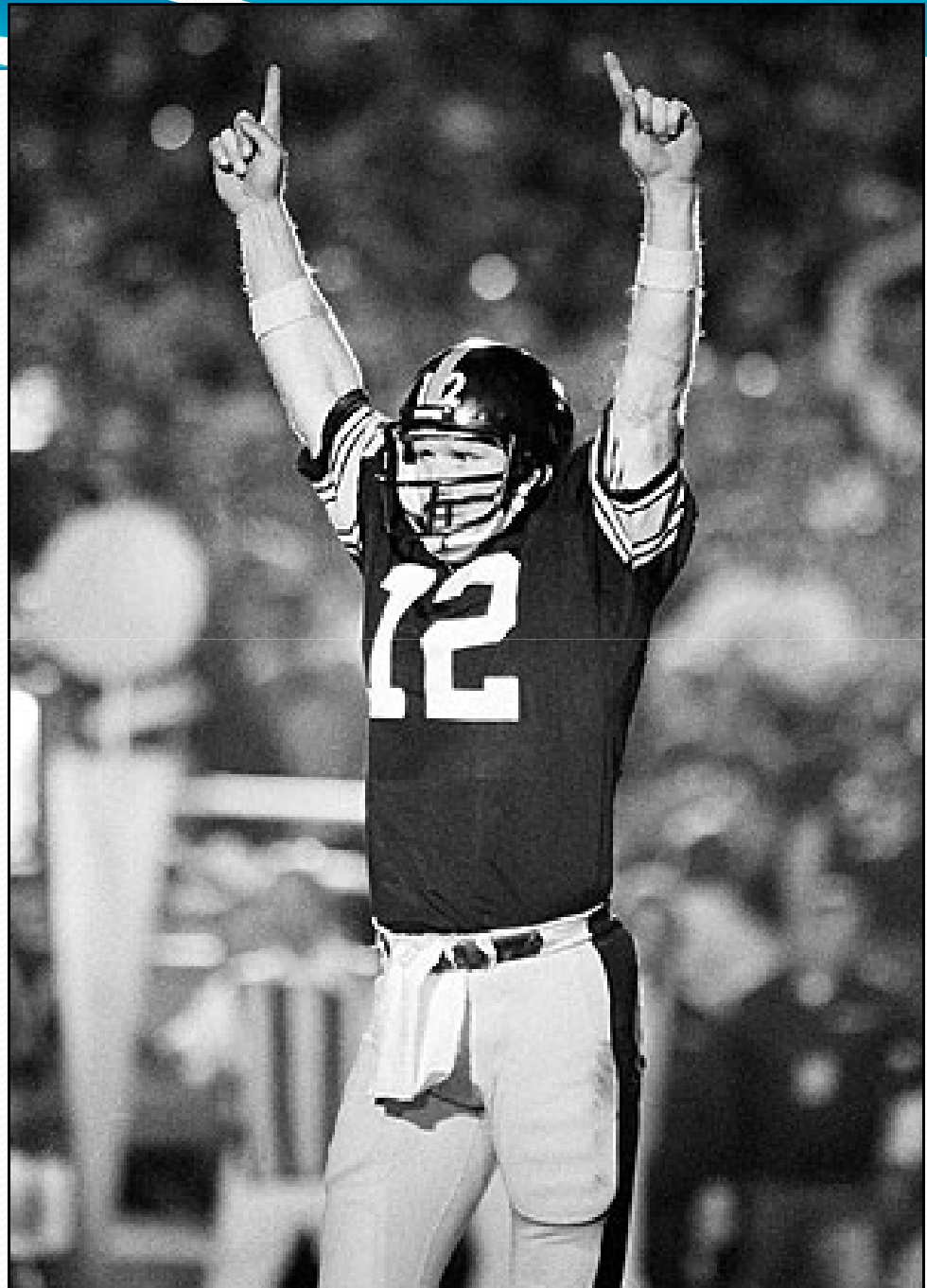


Patricia Polacco: Children's book author and illustrator

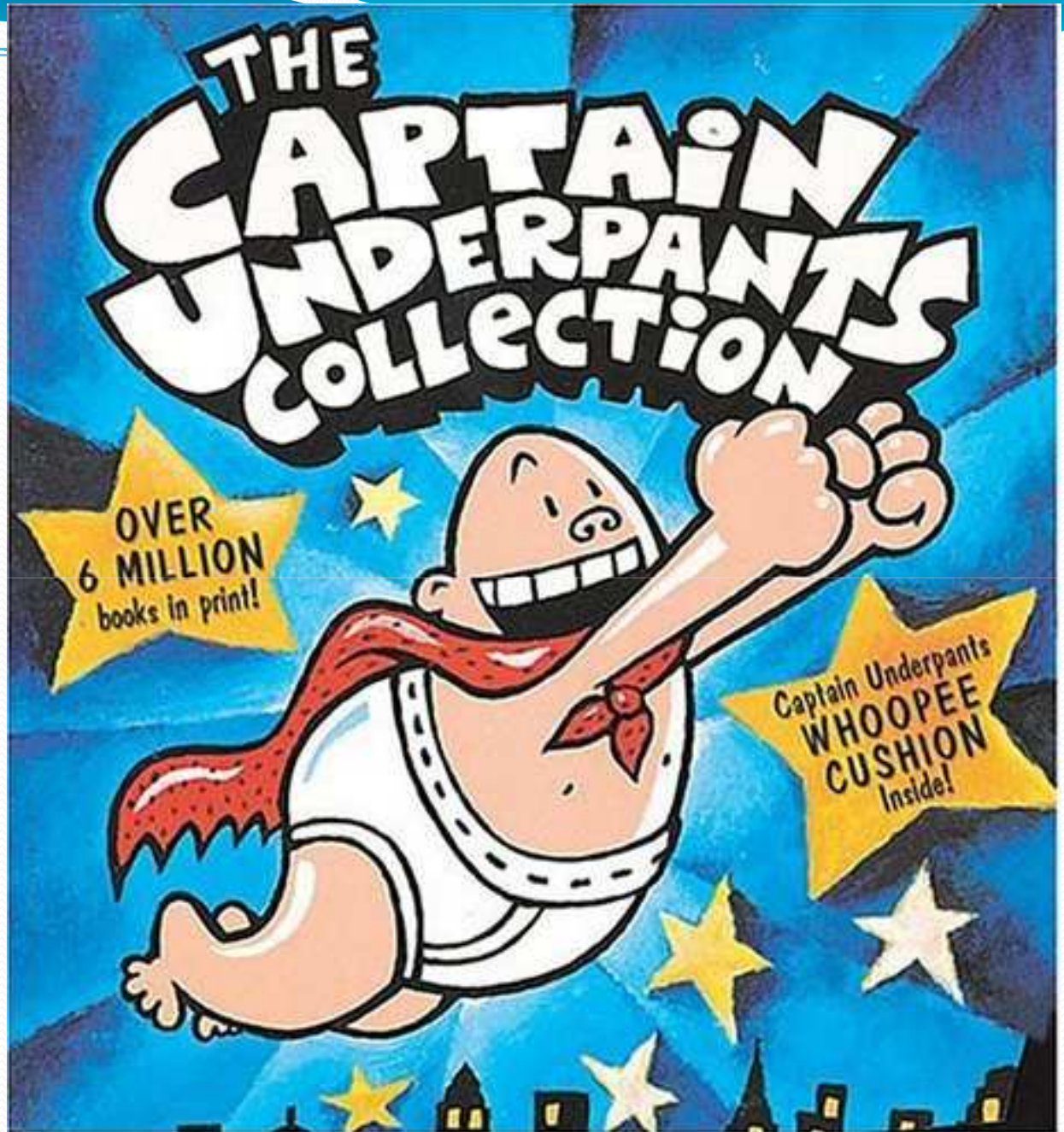


Terry Bradshaw:

Quarterback for
the Pittsburgh
Steelers



Dav Pilkey:
Children's
book
author



A close-up photograph of a hand holding a yellow daffodil flower. The hand is positioned in the lower right, with fingers gently gripping the stem. The flower is in full bloom, with several bright yellow petals. The background is a soft, out-of-focus light blue and white. The entire image is framed by a blue and white wavy border at the top.

Children should be led into the right paths, not by severity, but by persuasion.

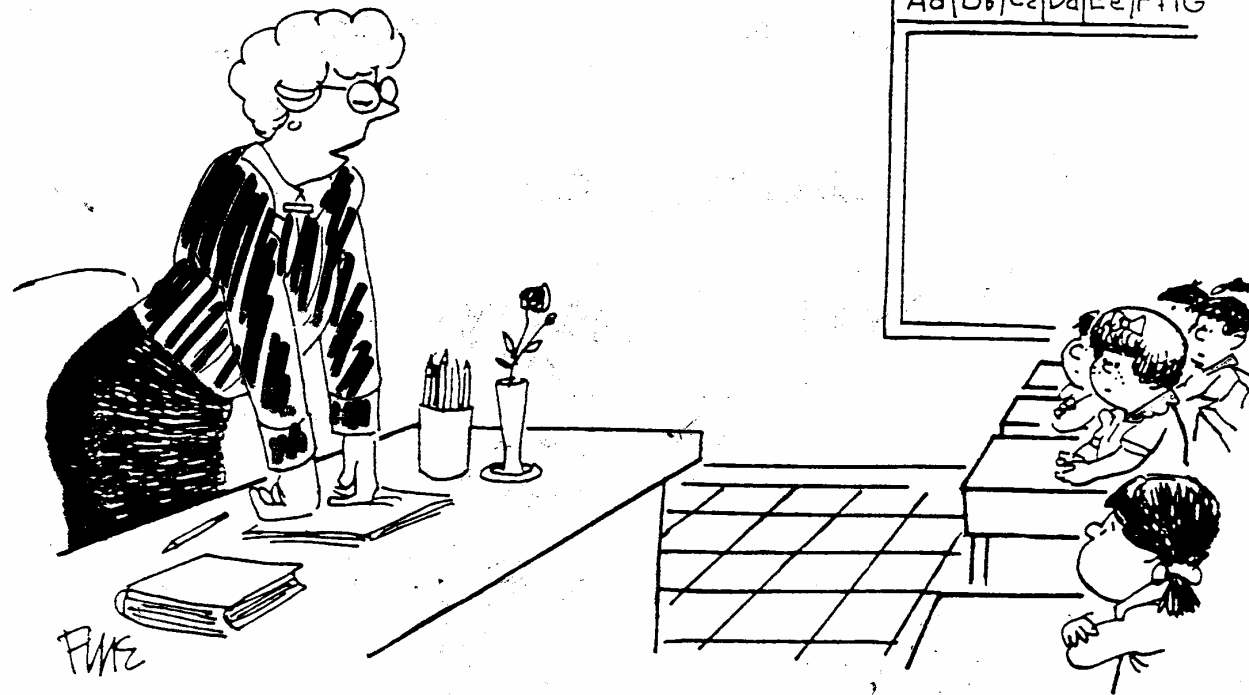
-Terence

The joy of learning is as indispensable in study as breathing is in running.

-Simone Weil

Those having torches will pass them on to others.

-Plato



"I'm your teacher, Mrs. Gridley. Learn to read, write, and do arithmetic, and nobody will get hurt."

Phi Delta Kappan

OCTOBER 1990

What are the Essential Elements of Good Reading Instruction?

→ Phonemic Awareness

the ability to hear, identify, and play with individual sounds- or phonemes- in spoken words

→ Fluency

the capacity to read text accurately and quickly

→ Vocabulary

the knowledge of words students must have to communicate effectively

→ Phonics/Alphabetic Principle

an understanding that there is a relationship between the letters of written language and the sounds of spoken language

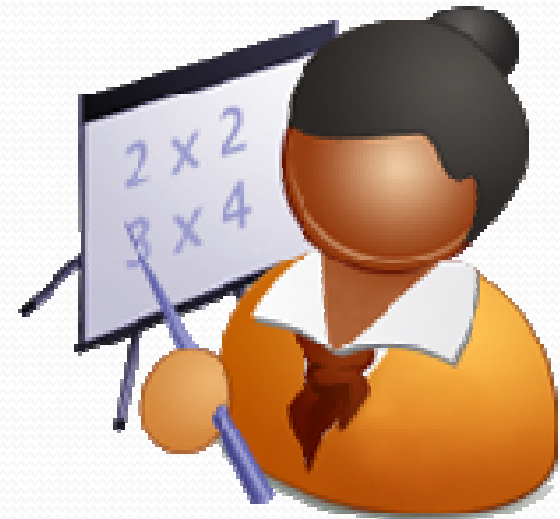
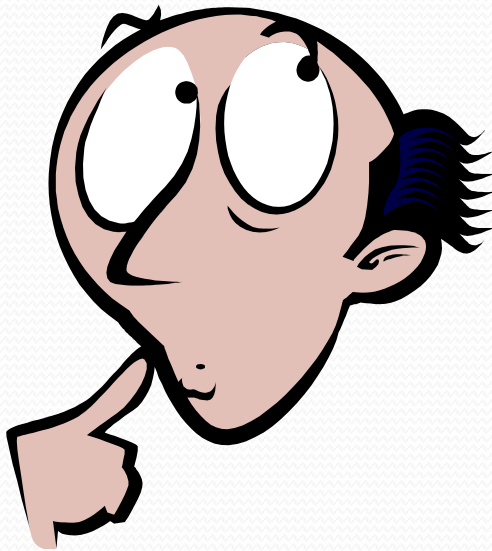
→ Comprehension

the ability to understand and gain meaning from what has been read

National Reading Panel

What is Taught to Teachers?

Personal philosophy?



**Or best practices
supported by research?**



Video-Reading and the Brain

- Reading Rockets-video site

Teacher effectiveness research points to the benefit of instruction that is:

- Direct
- Systematic
- Explicit

Teachers need to state the objective of their lessons so that students understand the key learning that is to take place. Modeling or demonstration, followed by guided practice, are steps that need to occur before students do independent practice.

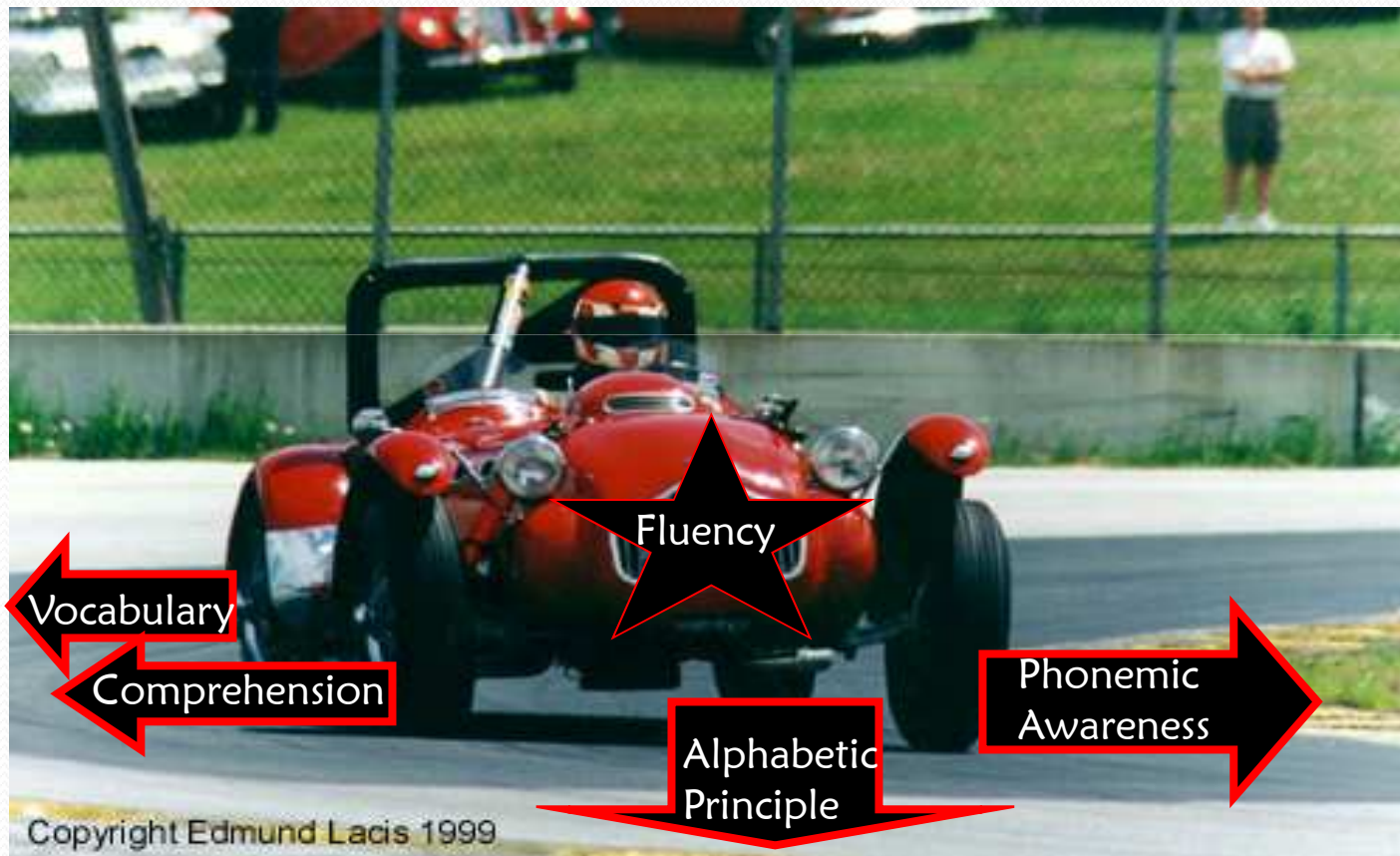
Sound It Out

	Read It!	Hint	Answer
1.	SHOCKED CUSSSED TOE	<i>person</i>	
2.	SAND TACKLE LAWS	<i>fictional character</i>	
3.	MY GULCH HOARD UN	<i>person</i>	
4.	MOW BEAD HICK	<i>book</i>	
5.	TALL MISCHIEF HER SUN	<i>person</i>	
6.	CHICK HE TUB AN AN US	<i>product</i>	
7.	THOUGH TIGHT AN HICK	<i>thing</i>	
8.	AISLE OH VIEW	<i>phrase</i>	
9.	TUB RAID HEAP HUNCH	<i>TV show</i>	
10.	CARESS TOUGHER CLUMP US	<i>person</i>	
11.	DOCKED HEARSE WHOSE	<i>person</i>	
12.	THUMB ILL KEY WAKE OWL LICKS HE	<i>place</i>	
13.	AGE ANT HUB BLOWS HEAVEN	<i>fictional character</i>	
14.	THESE HOUND DOVE MOO SICK	<i>movie</i>	
15.	BUCKS SPUN HE	<i>fictional character</i>	

Sound it out

Read It!		Hint	Answer
1.	SHOCKED CUSSÉD TOE	<i>person</i>	Jacques Cousteau
2.	SAND TACKLE LAWS	<i>fictional character</i>	Santa Claus
3.	MY GULCH HOARD UN	<i>person</i>	Michael Jordan
4.	MOW BEAD HICK	<i>book</i>	Moby Dick
5.	TALL MISCHIEF HER SUN	<i>person</i>	Thomas Jefferson
6.	CHICK HE TUB AN AN US	<i>product</i>	Chiquita Bananas
7.	THOUGH TIGHT AND HICK	<i>thing</i>	The Titanic
8.	AISLE OH VIEW	<i>phrase</i>	I love you
9.	TUB RAID HEAP HUNCH	<i>TV show</i>	The Brady Bunch
10.	CARESS TOUGHER CLUMP US	<i>person</i>	Christopher Columbus
11.	DOCKED HEARSE WHOSE	<i>person</i>	Dr. Seuss
12.	THUMB ILL KEY WAKE OWL LICKS HE	<i>place</i>	The Milky Way Galaxy
13.	AGE ANT HUB BLOWS HEAVEN	<i>fictional character</i>	Agent 007
14.	THESE HOUND DOVE MOO SICK	<i>movie</i>	The Sound of Music
15.	BUCKS SPUN HE	<i>fictional character</i>	Bugs Bunny

Complex Alphabetic Code



Step 1

Phonemic Awareness and Phonics

“Teaches sound-spelling correspondences and syllable patterns—the building blocks of English”

phoneme = the smallest unit of sound

English = 26 letters in the alphabet and 44 speech sounds



Phonemic Awareness

- When a person understands that the words people say come apart and are made up of separate sounds or phonemes. It is understanding that these sounds are represented by letters in the alphabet and that the letters are linked to the sounds.
- Even in high school, phonemic awareness is the best predictor of the ability to read words accurately or quickly.
- In phonemic awareness drills you repeat, isolate, segment, blend, substitute, or delete sounds, and find rhyming words.

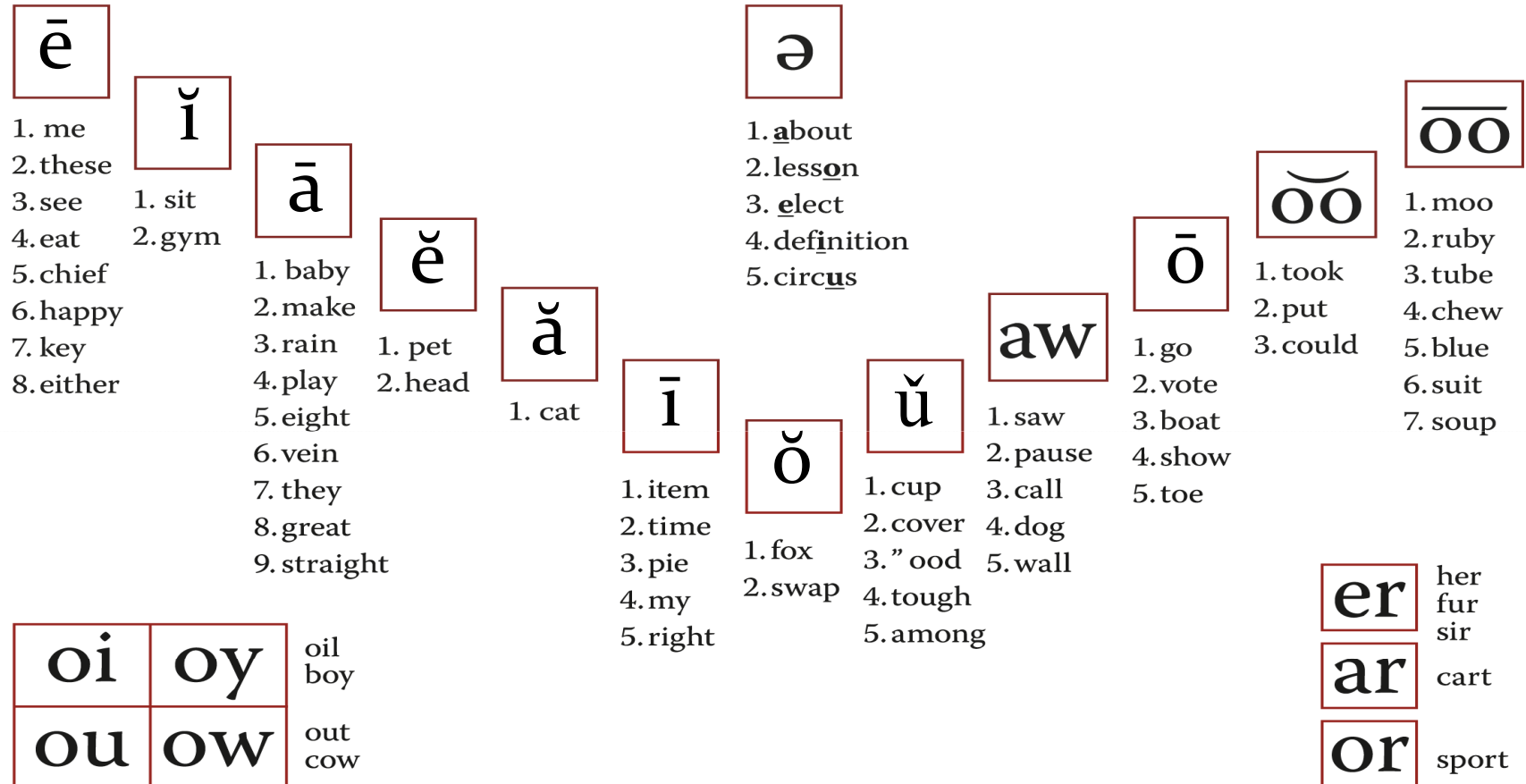
English Consonant Chart

(Note the voiceless/voiced consonant phoneme pairs)

Mouth Position

Type of Consonant Sound		<i>Bilabial</i> (lips)	<i>Labiodental</i> (lips/teeth)	<i>Dental</i> (tongue between teeth)	<i>Alveolar</i> (tongue behind teeth)	<i>Palatal</i> (roof of mouth)	<i>Velar</i> (back of mouth)	<i>Glottal</i> (throat)
	Stops	/p/ /b/		/	t/ /d/		/k/ /g/	
	Fricatives		/f/ /v/	/θ/ /ð/	/s/ /z/	/ʃ/ /ʒ/		/h/ ¹
	Affricatives					/tʃ/ /dʒ/		
	Nasals	/m/		/	n/		/ŋ/	
	Lateral				/l/			
	Semivowels	/ ^h w/ /w/ ²			/r/	/y/		

English Vowel Chart



Note: The order of spelling examples reflects the relative frequency of incidence for that spelling of the phoneme.



/k/

cabbage

kitten

slacker

antique

quick

/sh/

shop

action

chute

sugar

official

/ā/

baby

tame

gray

eight

great

obey

/chr/

trust

train

track

try

Phonics

26 Letters = 250 graphemes
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Phonemic Awareness



44 Speech Sounds
/k/ cup school
 kettle unique
 deck ox



See and Say

/s/ /h/

/w/ /h/

/t/ /h/

/c/ /h/

/n/ /g/

new digraph /sh/

new digraph /wh/

new digraph /th/ /th/

new digraph /ch/

new digraph /ng/





Phonics

- It is understanding how letters and groups of letters represent the sounds of spoken language.
- It is understanding how sounds are blended to make words.
- Research proves that children who are taught phonics in a specific and sequenced way make more progress with reading than kids taught in other ways.



Sounding out words (decoding)

- People who have difficulty reading may not know the sounds of a word or be able to decode it, even though they might know what the word means.
- If a person understands how to decode they can read any unfamiliar word, not only words they have memorized.
- At **LEAST** four correct readings are needed to automatically recognize a word or gain fluency on a reading passage—sometimes more.

Teach Pattern Recognition, Not Rule Memorization

- Closed Syllable and Final Silent e

bit

e

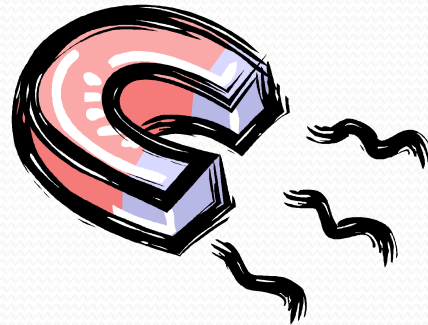
Cut/cute kit/kite can/cane cub/cube cod/code dim/dime fin/fine hid/hide
Jan/Jane mat/mate pan/pane rid/ride con/cone fad/fade fir/fire man/mane
hop/hope not/note pin/pine rip/ripe tam/tame win/wine rob/robe
slid/slide tap/tape tub/tube

Syllabication

VC CV

Pulling Apart

MAG NET



Absent common happen attic cotton helmet basket custom hidden
blanket dentist picnic blossom fallen insect funnel goblet cactus triplet
velvet cobweb kidnap lesson trumpet tunnel

“Expecting teachers to construct and instruct
is unreasonable and too important to leave
to chance.”

Dr. Louisa Cook Moats,

“Teaching Reading IS Rocket Science”

American Educator

Step 2

Word Recognition and Spelling

“Uses building blocks to master the spelling of phonetically regular words of English”

*Fluency is the ability to read a text accurately and quickly.
It is the bridge between word recognition and comprehension.*



Word Building

th

wh

sh

ch

-ng

-at

-ip

-in

-ick

-op





Closed Syllable Rule:

A vowel followed by a consonant closes the syllable and the vowel is short.

that

Silent –e Rule:

A vowel followed by a consonant and an –e makes the first vowel long and the –e silent.

whale

I Do!

Modeling Demo Explanation


We Do!

*Student-Teacher Guided Practice with Feedback and
Self-Monitoring*

You Do!

Student Practice

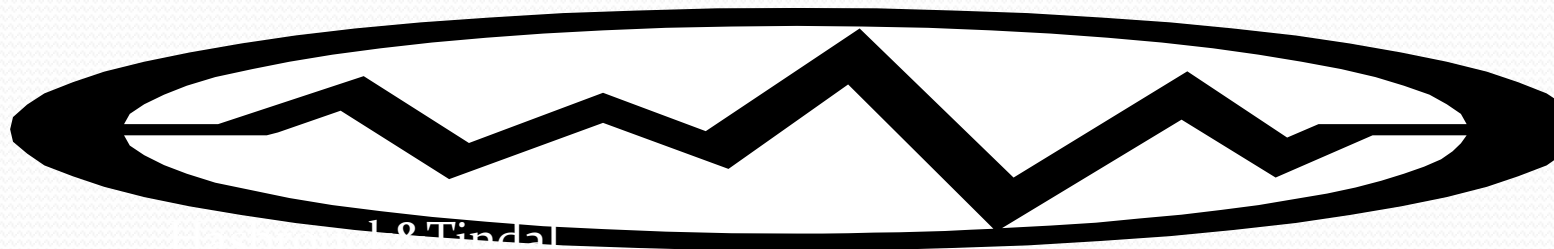




High Frequency words in print
is, I, and, now, the, he ,
you, to, in, it, of, my,
that ,when, a, that, on,
we ,was --25⁰% of all
words in print !

Fluency Rates

- End of First 70 cwpm
- End of Third 120 cwpm
- End of Middle 150 cwpm
- End of High 180-220 cwpm

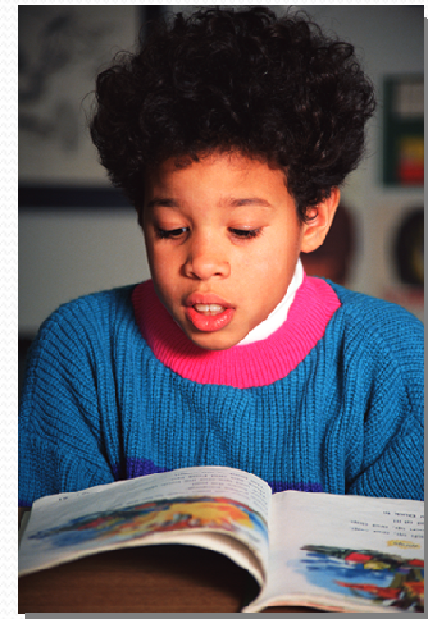


Step 3

Vocabulary and Morphology

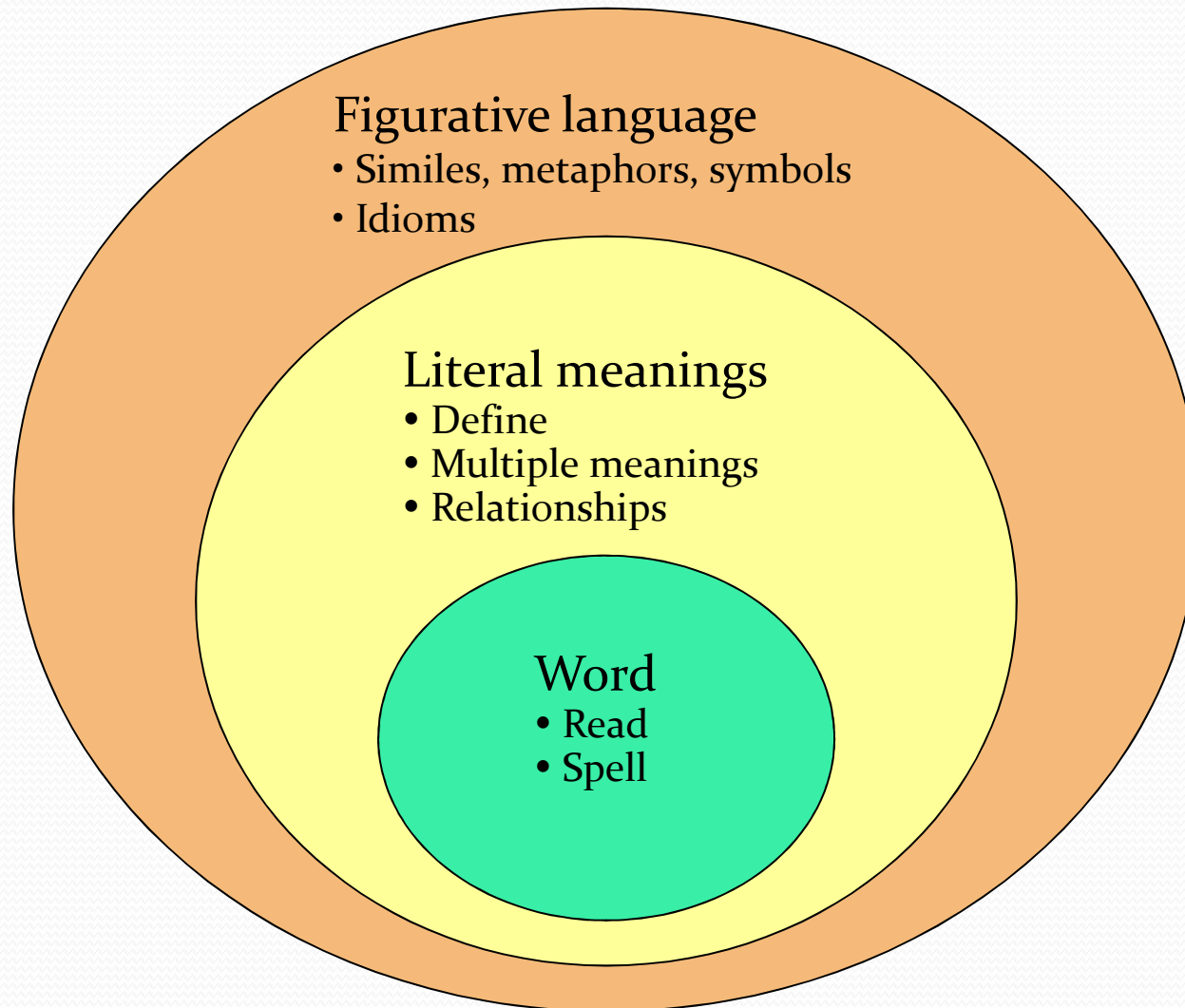
“Progress through Anglo-Saxon word meanings, multiple meanings, Latin and Greek roots, prefixes and suffixes...”

morpheme = the smallest unit of meaning



Knowing a word...

Do it!

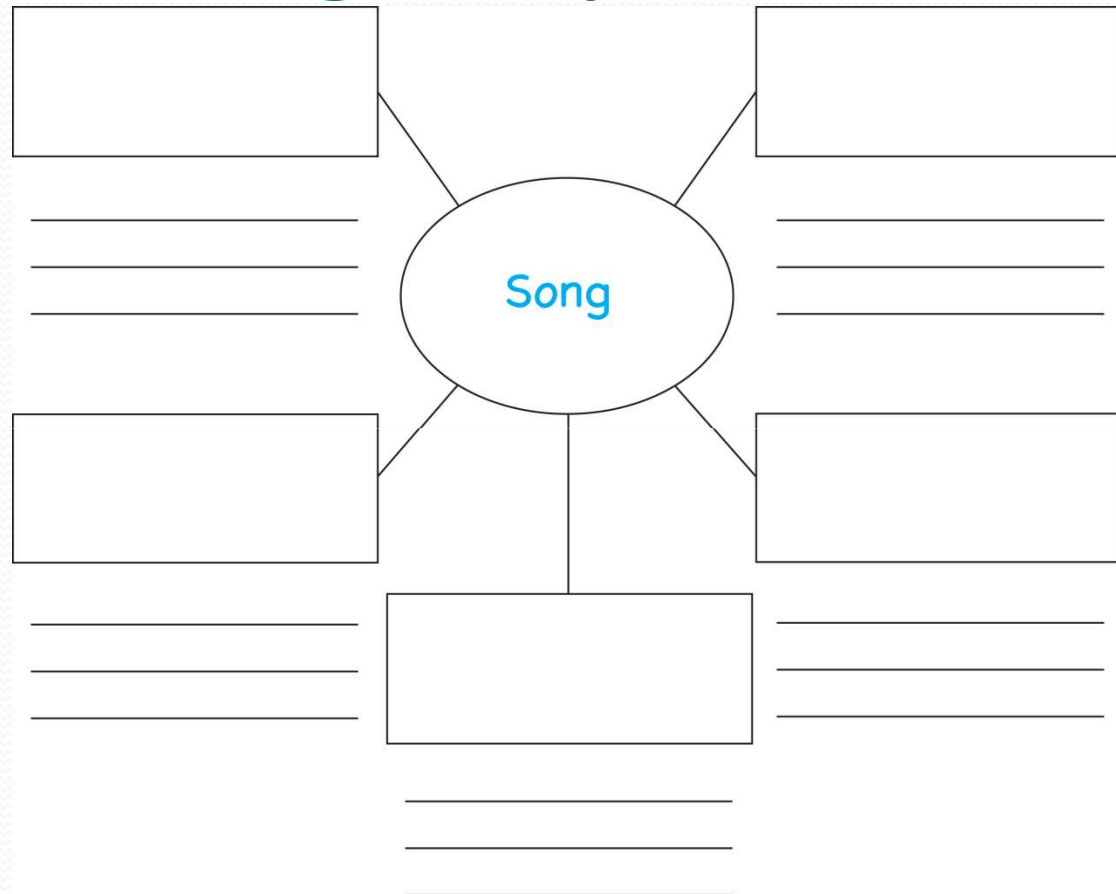


Multiple Meaning Map



Expressions

- for a song
- whale of an idea



**Make a card with expression
on one side, meaning
on other.**

Sort It

Words	Synonym	Antonym

- **Suffix:** -ing, -ed, -es, -s, -ful, -less

Step 4

Grammar and Usage

“Explicitly teaches English structure, usage, and mechanics”



Action Verbs

- sing + ing =
- wing + ing =
- mash + ing =

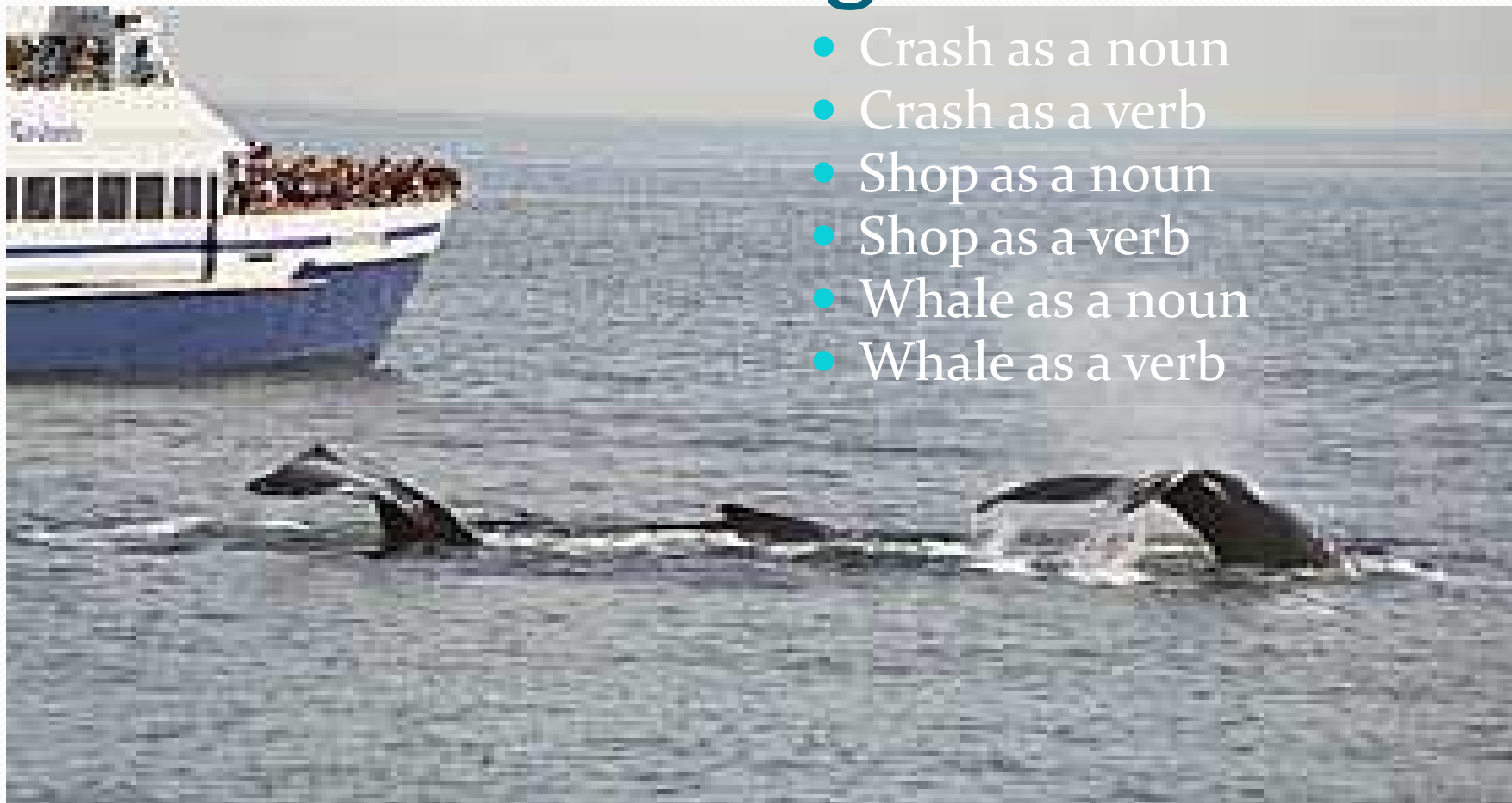


1+1+1 Rule = For one vowel that is followed by one consonant and is one syllable, double the final consonant before adding a suffix that begins with a vowel.

- shop + ing =

Usage

- Crash as a noun
- Crash as a verb
- Shop as a noun
- Shop as a verb
- Whale as a noun
- Whale as a verb



Step 5

Listening and Reading (Comprehension)

“Applies previous steps to reading—decoding and comprehension”



Fluency Training

- Good fluency is the critical marker for permanent growth in reading skill.
- To improve in fluency you have to:
 - focus on reading out loud,
 - have lots of chances to practice reading words over and over again in context,
 - get feedback on accuracy as you read.

Phrase It

- Use the penciling strategy to “scoop” the phrases in each sentence.
- Read as you would speak them.
- The first two are done for you.
 1. A ship is moving off the dock.
 2. It is tracking whales.
 3. Whales can sing many pitches.
 4. A whale is the biggest living mammal.
 5. It can have a fin on its back.






Singing Whales

TEACHER: Imagine yourself on a whale-watching trip. What you will hear is just as amazing as what you will see.

STUDENT: A ship is moving off the dock. Quick, get on. It is tracking whales. Not to catch them. To catch their songs! Whales sing. It's a fact. Their singing is fantastic! They live in the depths, yet their songs get to the top. They can sing at length. A song can last 10 hours! Whales can sing many pitches. The pitch in the song can be shrill. The pitch can be soft. It can blast. Whales can trill in a song. Pitches link and make a song.

TEACHER: How much do you know about whales?

STUDENT: The whale is the biggest living mammal. It swims past the ship. Inspect it. Its skin is black. It has a gloss to it. It can have a fin on its back. This is not an exotic fish. In fact, it is not a fish at all! It is a mammal. Fish have gills. Whales have lungs. There are two classes of whales. The first has teeth. The second class does not. The first class tracks fish and squid to eat. The second class gets the smallest fish.



Student-adult reading › reading one-on one with an adult, who provides a model of fluent reading, helps with word recognition, and provides feedback.

Choral reading › reading aloud simultaneously in a group

Tape-assisted reading › reading aloud simultaneously or as an echo with an audio-taped model.

Partner reading › reading aloud with a more fluent partner (or with a partner of equal ability) who provides a model of fluent reading, helps with word recognition, and provides feedback

.

Readers' theatre › the rehearsing and performing before an audience of a dialogue-rich script derived from a book.

Find It: Consonant Digraphs

- Quietly read the selection to yourself.
- Highlight or underline the words with consonant digraphs

Based on the "Singing Whales"

A ship is moving off the dock. Quick, get on. It is tracking whales. Not to catch them. To catch their songs! Whales sing. It's a fact. Their singing is fantastic! They live in the depths, yet their songs get to the top. They can sing at length. A song can last 10 hours! Whales can sing many pitches. The pitch in the song can be shrill. The pitch can be soft. It can blast. Whales can trill in a song. Pitches link and make a song.

- Record five words with five different consonant digraphs on the lines below

1. _____ 2. _____ 3. _____
4. _____ 5. _____

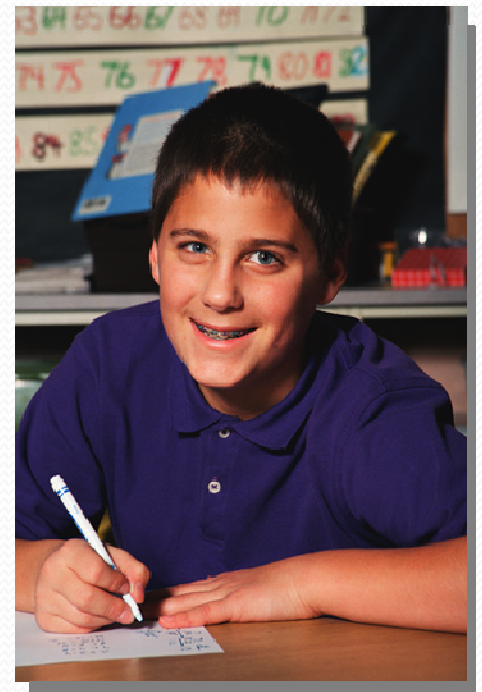


Step 6

Speaking and Writing

“Guides the writing process explicitly from sentence to paragraph to essays”

The ultimate outcome of systematic, explicit instruction is children who can read, write, and speak the English language.



Masterpiece Sentence:

Six-Stage Process Cue Chart

Stage	Process	Questions to Answer	Examples
Stage 1: Prepare Your Canvas	Choose (identify) a noun for the subject. Choose (identify) a past tense verb for the predicate.	Subject: Who or what did it? Predicate: What did he/she/it/they do?	
Stage 2: Paint Your Predicate	Tell more about what happened.	How? When? Where? What did he/she/it/they do it to?	
Stage 3: Move the Predicate Painters	Move the Predicate Painters to create a different sentence structure.		
Stage 4: Paint Your Subject	Tell more about the subject.	Which one? What kind? How many?	
Stage 5: Paint Your Words	Select words or phrases in the sentence and replace with more descriptive ones.		
Stage 6: Finishing Touches	Move sentence parts, check spelling, and check punctuation.		



Comprehension

- Paraphrase
- Summarize
- Retell
- Rewrite
- “Who/what did it?”
- “What did he/she/it do?”
- Where, when, how
- Which, what kind of, how many...



Language



Knowledge

Reading
Comprehension

Fluency

Metacognition



“Weakness in a sea
of strength”





Lessons From Research on Reading

- Without early identification and intervention, reading difficulties typically persist into adulthood at least to the extent of hindering the enjoyment and productivity of reading.
- Even among children and adults who score within normal ranges on reading achievement tests, many report that reading is so laborious and unproductive that they rarely read either for learning or for enjoyment.
- The logic of all alphabetic languages, including English, is built on the understanding that every word is made up of a sequence of elementary speech sounds or phonemes, for it is the phonemes that are represented by the letters. A failure to notice that spoken words can be broken into phonemes (phonemes segmentation – an important component of phonemic awareness) is a major cause of a profound reading disability.





Lessons From Research on Reading

- Due to both biological and background factors, the difficulty of learning to read varies significantly across children. However, the major contributor to reading failure is instruction that is inadequate to the child's needs or the demands of the reading situation.
- Understanding how the alphabet works is necessary but not sufficient. Children must use their spelling-sound knowledge in their own reading and writing; only through use will this knowledge become fluent and effortless. Again, where instruction systematically fosters such use, reading acquisition is accelerated and the incidence of failure is significantly reduced.





Lessons From Research on Reading cont.

- Developing adequate awareness of phonemes is not dependent on intelligence, SES, or parents' education, but can be effectively fostered through instruction. Such instruction is shown to accelerate reading acquisition in general even as it reduces the incidence of reading failure.

Beyond the basics, reading growth is promoted by direct instruction in comprehension strategies and depends on a regular and broad diet of independent reading.





Lessons From Research on Reading cont.

- The best strategy for preventing and correcting reading difficulties is explicit, systematic instruction, guided by on-going assessment, to include:
 - a. Early support of letter knowledge and phonemic awareness;
 - b. instruction on letter-sound correspondences and spelling conventions;
 - c. Opportunity and encouragement to use spelling-sound knowledge in reading and writing;
 - d. Daily sessions for independent and supported reading with attention to both fluency and comprehension; and
 - e. Active exploration of new language, concepts, and modes of thought that are offered by written text.

Adams, M.J. About the NICHD program of research on reading development and disorders (Fall, 1997). Perspectives Baltimore, MD: The International Dyslexia Association, Pg 5





Two critical reading goals:

1. **Increase** the percentage of students reading “**at grade level**” each year at each grade level from kindergarten through the end of elementary school
2. **Decrease** the percentage of **students with serious reading difficulties** each year at each grade level

Our most important measures of success in doing this **assess student performance on reading comprehension** measures at the end of the year—particularly at end of third, fourth, and fifth grades

Whether or not we achieve these goals depends on the strength of our instruction to do two things during the year

Insuring ***all*** students make **expected** yearly growth

Strong core reading instruction for all students

Enough time spent to meet the needs of many students who do not typically receive powerful support at home

Enough quality so that the increased instructional time is spent effectively

Time X quality = growth

Programs Implemented With High Fidelity

Programs are only as good as the level of implementation

To optimize program effectiveness:

- Implement the program everyday with fidelity (i.e., the way it was designed)
- Deliver the instruction clearly, consistently, and explicitly (e.g., model skills and strategies)
- Provide scaffolded support to students (e.g., give extra support to students who need it)
- Provide opportunities for practice with corrective feedback (e.g., maximize engagement and individualize feedback)



Planning for TAG

(Target Accelerated Growth)

- Daily minutes required for annual 3rd grade
- Daily minutes required for annual 4th grade growth

90 minutes
+90 minutes
180 minutes

- Additional daily minutes for 3 years catch up growth
(3 years x 90 minutes)

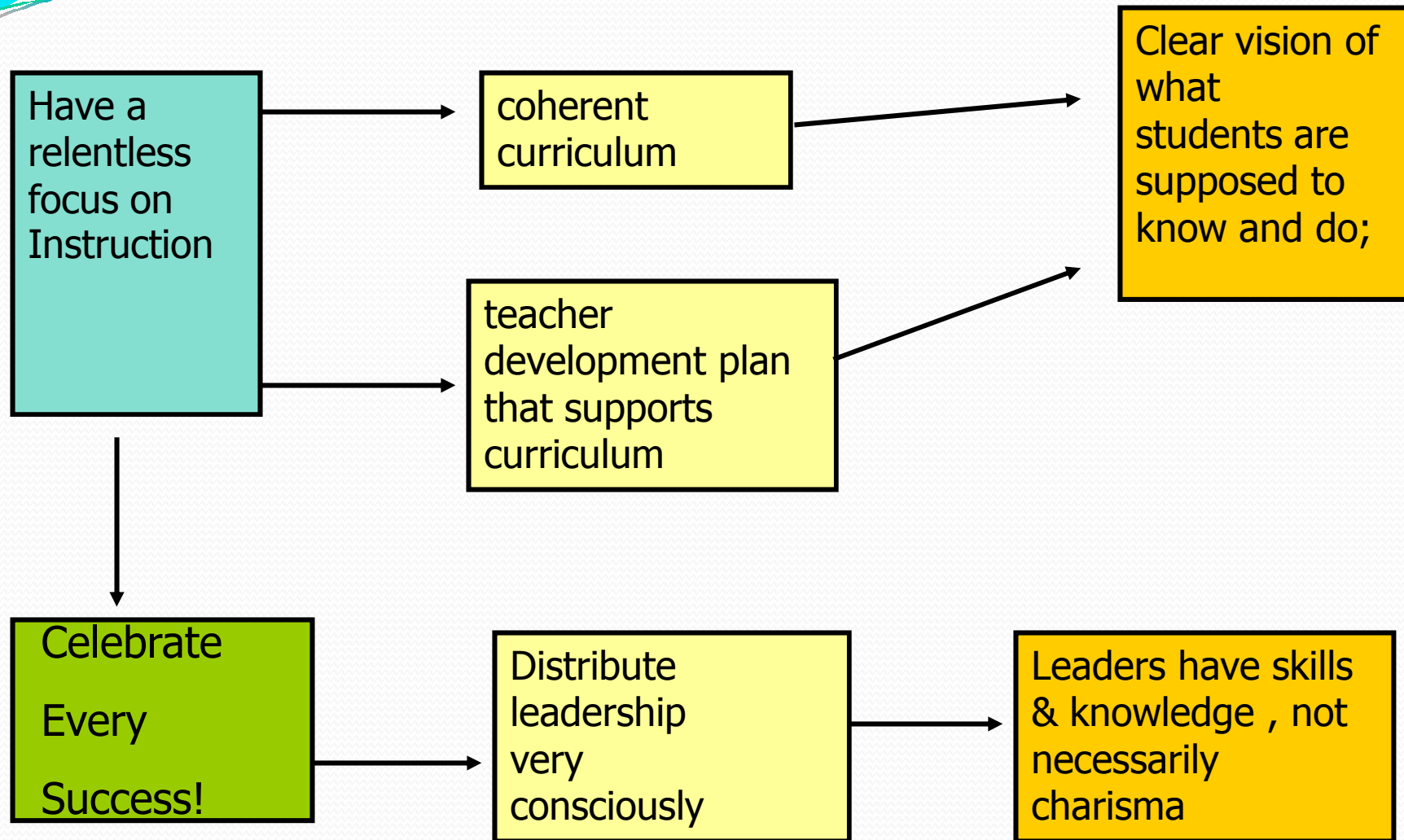
+ 270 minutes

TOTAL 3rd & 4th grade daily minutes.....

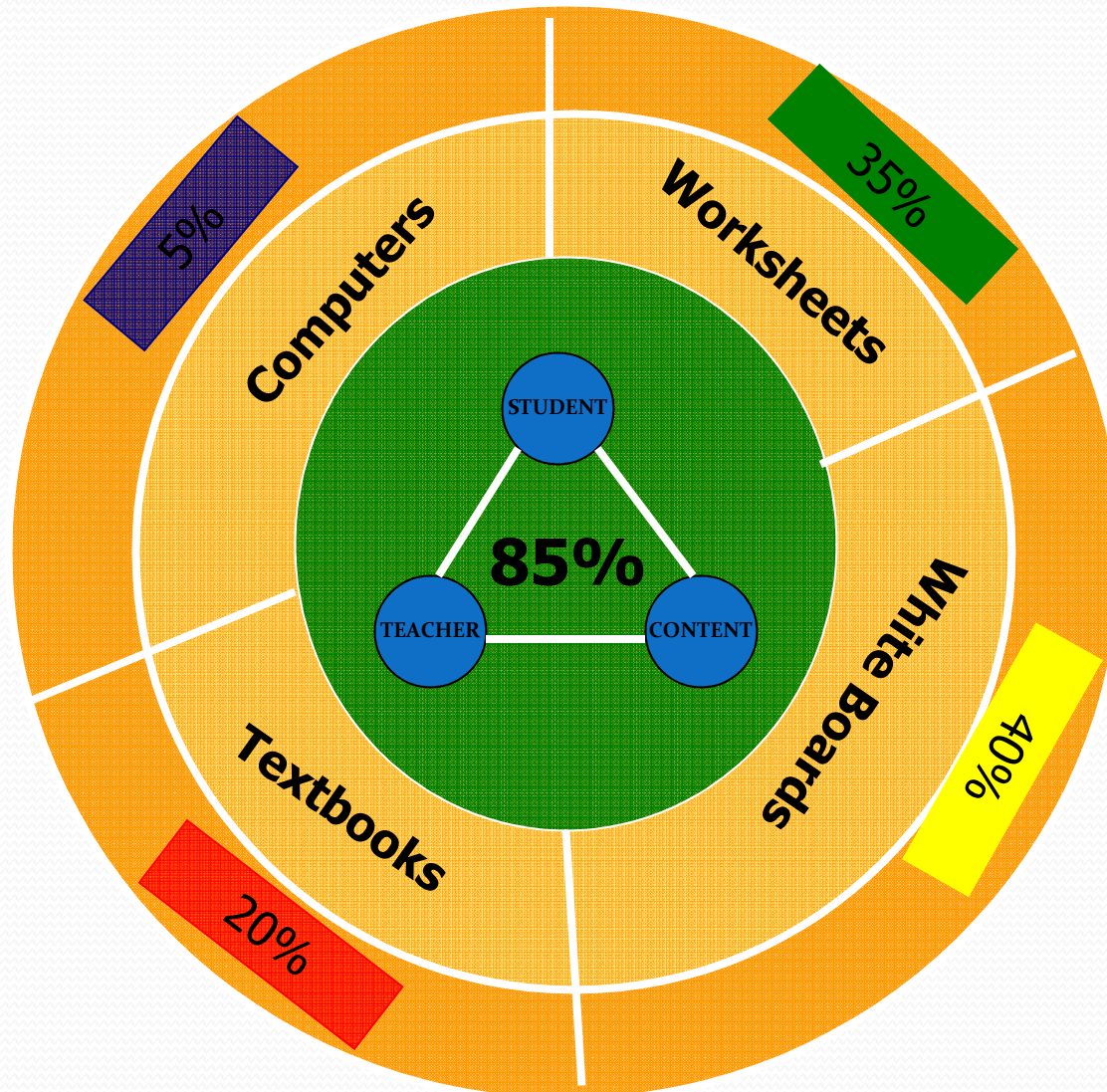
540 minutes

Dividing the instructional time equally between third and fourth grade shows that **Tony needed 200 minutes** of direct reading instruction in **both third and fourth grades** to reach the 50% goal by the end of the fourth grade school year

Schools That Are Closing The Achievement Gap



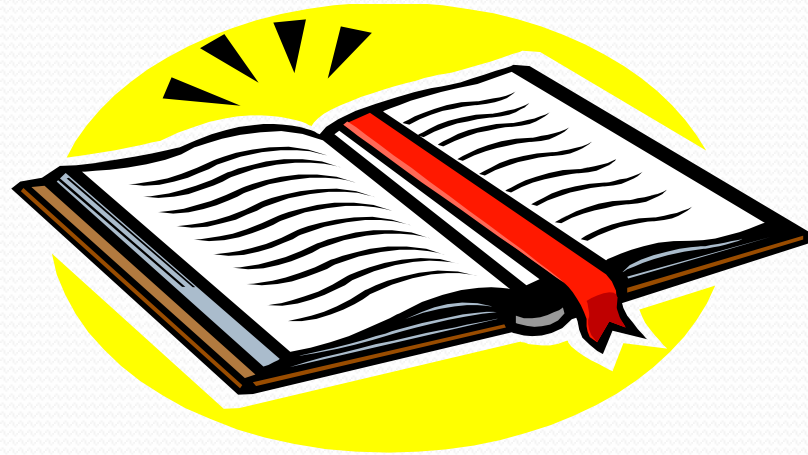
In the U.S. Curriculum is Delivered...



"It matters little what else they learn in elementary school if they do not learn to read at grade level."

Must Reads

- The Voice of Evidence in Reading Research
P. McCardle
V & Chhabra
- Speech To Print
L. Moats
- Overcoming Dyslexia
S. Shaywitz
- Preventing Reading Difficulties in Young Children
C. Snow et.al.



The art of teaching is the
art of assisting discovery.

-Pablo Casales

The educator is like a good
gardener, whose function
is to make available
healthy, fertile soil in
which a young plant can
grow strong roots.

-E.F. Shumacher

Teaching is selflessness in
the service of others.

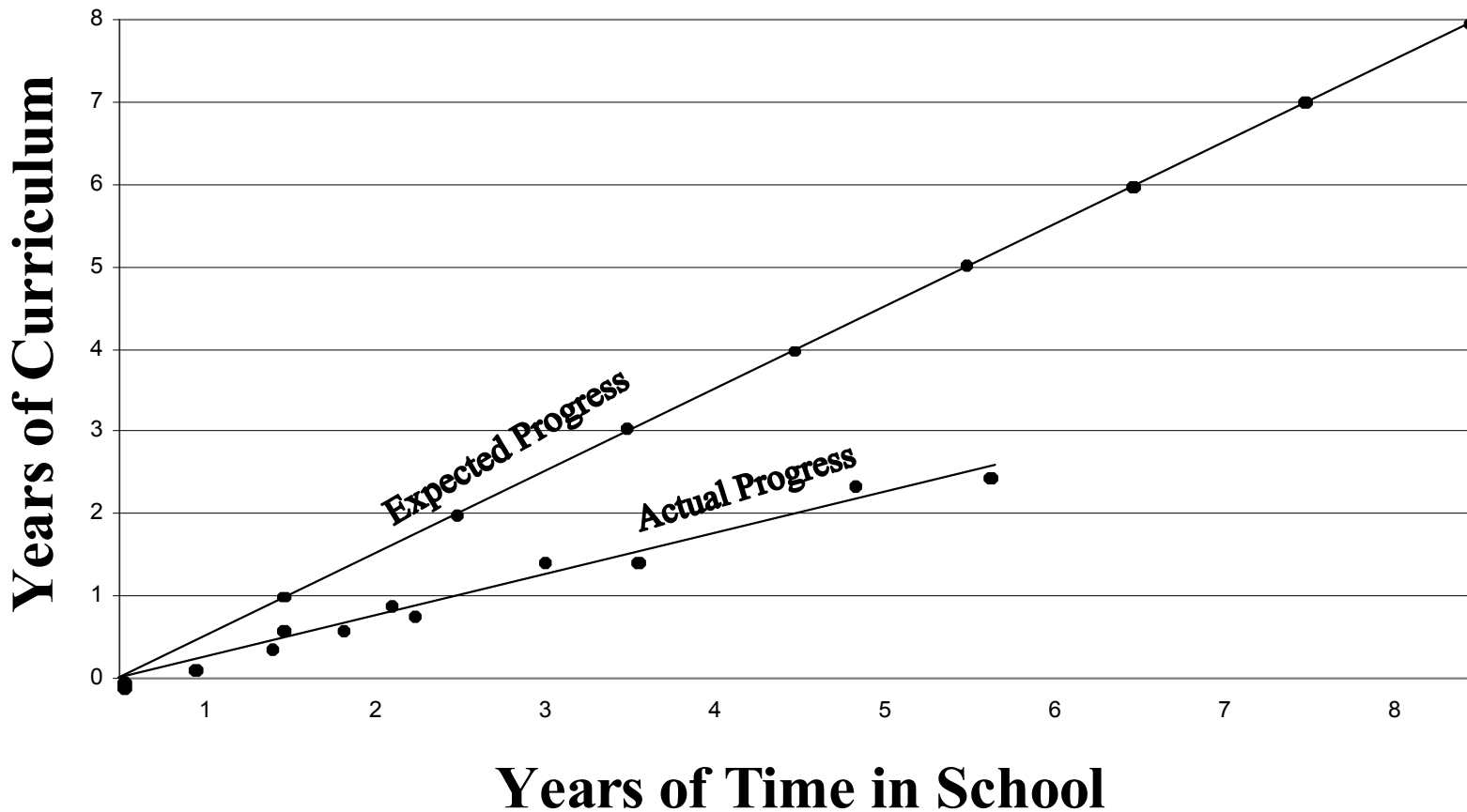
-Berlie J. Fallon





Who is this kid???

Actual Course of Learning of Student



Who is this kid???

Effect of Decision Making on Educational Progress

